

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed June 1, 200 5. Applicants respectfully request reconsideration and favorable action in this case.

Allowed Claims

Applicant notes with appreciation the Examiner's allowance of Claims 13-19.

Section 103 Rejections

The Examiner rejects Claims 1-7 and 20-26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,427,178 issued to Collin et al. ("*Collin*") in view of U.S. Patent No. 6,526,066 issued to Weaver ("*Weaver*") and U.S. Patent No. 6,243,778 issued to Fung ("*Fung*");

A system comprising:
a finite state machine having a plurality of states interconnected through
a plurality of events, wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware; and
a scheduler communicatively coupled to said finite state machine and having one or more parameters defining scheduled operations to be performed by said scheduler, wherein said finite state machine is configured to select one or more of said parameters to be used by said scheduler upon transition by said finite state machine from a first state to a second state.

Collin, *Weaver*, and *Fung*, both alone and in combination, fail to disclose teach or suggest every element of Claim 1 for at least several reasons. First, the proposed *Collin-Weaver-Fung* combination fails to disclose "a finite state machine having a plurality of states interconnected through a plurality of events, wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware." Second, the proposed *Collin-Weaver-Fung* combination also fails to disclose "[a] finite state machine [configured] to select one or more of said parameters to be used by said scheduler upon transition by said finite state machine from a first state to a second state." Third, the proposed *Collin-Weaver-Fung* combination is improper for at least several reasons, as described in greater detail below.

First, the proposed *Collin-Weaver-Fung* combination fails to disclose “a finite state machine having a plurality of states interconnected through a plurality of events, wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware.” As the Examiner concedes, “*Collin* fails to explicitly disclose states and events implemented in hardware and software.” *Office Action*, p. 2. As the Examiner also concedes, “*Weaver* fails to explicitly disclose certain states and events implemented in software.” *Office Action*, p. 3. While the Examiner asserts that “*Weaver* discloses conditions under which the states exist and the conditions for triggering a transition from one state to another are programmable” (*Office Action*, p. 3.), to whatever extent this may be true, *Weaver* still does not disclose “a finite state machine . . . wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware.”

The Examiner attempts to remedy this omission by combining *Collin* and *Weaver* with *Fung*. In general, *Fung* discloses “[a] system architecture for a high speed serial bus compatible with the 1394 standard.” Abstract. Moreover, the portion cited by the Examiner in rejecting Claim 1, states only that:

[t]he link layer 20 and physical layer 30 are generally embodied in hardware, for example, a chip available from Silicon System Design, Inc., or also available from Texas Instruments, Inc. The transaction layer 10, transport layer 80, application layer 90, and other functions of the transport interface will generally be implemented in software form, i.e., a software program executed once it is loaded into memory.

Col. 4, lines 34-41.

Thus, *Fung* merely teaches that various different layers may be embodied in either hardware or software. *Fung*, however, does not disclose “a finite state machine . . . wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware.” Thus, combination with *Fung* does not remedy the deficiencies of *Collin* and *Weaver*, and the proposed *Collin-Weaver-Fung* combination fails to disclose “a finite state machine having a plurality of states interconnected through a plurality of events, wherein certain states and events in said plurality are implemented in software and other states and events in said plurality are implemented in hardware” as recited by Claim 1.

Second, the proposed *Collin-Weaver-Fung* combination also fails to disclose “[a] finite state machine [configured] to select one or more of said parameters to be used by said scheduler upon transition by said finite state machine from a first state to a second state.” *Collin* fails to disclose any “finite state machine.” The cited portion discloses only a data pump which includes the modules between the controller 502 and the hardware interface 510 in Figure 5 (i.e. Data Pump Abstraction Layer (DPAL) 504, Advanced Modem Operation Scheduler (AMOS) 506, and Sampler 508). Col. 5, ll. 51-54; Figure 5. *Collin* does not disclose that the data pump “[has] a plurality of states interconnected through a plurality of events.” In fact, *Collin* makes no reference to any “states” or “events.” Because *Collin* does not disclose a finite state machine, *Collin* does not disclose a finite state machine “configured to select one or more of said parameters to be used by said scheduler upon transition by said finite state machine from a first state to a second state.”

Furthermore, combination with *Weaver* and/or *Fung* does not remedy this omission. *Weaver* fails to disclose any “scheduler.” The only form of “scheduler” disclosed by *Fung* organizes dispatch message control (DMC) blocks associated with requested service in an execution order based on a priority assigned to the requested service. Col 8, ll. 61- col. 9, ll. 8. *Fung* does not disclose any parameters “used by said scheduler upon transition by [a] finite state machine from a first state to a second state,” nor does *Fung* disclose any finite state machine configured to select such parameters. Thus, combination with *Weaver* and *Fung* fails to remedy the deficiencies of *Collin*, and the proposed *Collin-Weaver-Fung* combination fails to disclose “a finite state machine [configured] to select one or more of said parameters to be used by said scheduler upon transition by said finite state machine from a first state to a second state” as recited by Claim 1.

Third, the proposed *Collin-Weaver-Fung* combination is improper. Applicant respectfully notes that, to establish a prima facie case of obviousness, the Examiner must identify within the references some suggestion or motivation to combine the references. M.P.E.P. § 2143. Applicants respectfully assert that the Examiner provides no such suggestion or motivation. With respect to the proposed combination, the Examiner states only that:

[I]t would have been obvious to one skilled in the art to modify the system of *Collin*, by partitioning the states and events between hardware and software, in order to optimize transmission speed and overall system and performance.

Office Action, p. 3.

These conclusory statements however identify no motivation or suggestion *within the references* to combine the references as required by M.P.E.P. § 2143 and amount to hindsight reconstruction of Claim 1. Thus, the proposed combination is improper.

Furthermore, *Collin* discloses a “multi-task structure for a software modem” (Abstract), *Weaver* discloses a switch “for classifying a packet within a data stream” (Col. 2, ll. 35-36; col. 1, ll. 44-45), and *Fung* discloses “[a] system architecture for a high speed serial bus” (Abstract). Applicant respectfully notes that the Examiner has failed to explain how these might possibly be combined into a single functioning device. Moreover, since these devices are intended to provide markedly different functionality, the principles of operation of each would clearly have to be modified to accommodate the Examiner’s proposed combination. As the M.P.E.P. states “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, the teaching of the references are not sufficient to render the claims *prima facie* obvious.” M.P.E.P. § 2134.02. Therefore, the proposed combination is also improper for at least this reason.

Thus, the proposed *Collin-Weaver-Fung* combination fails to disclose, teach, or suggest every element of Claim 1. Additionally, the proposed combination is improper. Claim 1 is thus allowable for at least these reasons. Applicant respectfully requests reconsideration and allowance of Claim 1 and its dependents.

Although of differing scope from Claim 1, Claim 20 includes elements that, for reasons substantially similar to those discussed with respect to Claim 1, are not disclosed, taught, or suggested by the cited references. Claim 20 is thus allowable for at least these reasons. Applicant respectfully requests reconsideration and allowance of Claim 20 and its dependents.

The Examiner rejects Claims 8-10 and 27-29 under 35 U.S.C. § 103(a) as being unpatentable over *Collin*, *Weaver* and *Fung* in view of U.S. Patent No. 5,953,741 issued to Evoy et al. (“*Evoy*”). Claims 8-10 depend from Claim 1, which has been shown above to be allowable. Claims 27-29 depend from Claim 20 which has also been shown above to be allowable. Claims 8-10 and 27-29 are thus allowable for at least these reasons. Applicants respectfully request reconsideration and allowance of Claims 8-10 and 27-29.

The Examiner rejects Claims 11, 12, 30 and 31 under 35 U.S.C. § 103(a) as being unpatentable over *Collin, Weaver, Fung* and *Evoy* in view of U.S. Patent No. 6,449,292 issued to Weeber ("*Weeber*"). Claims 11 and 12 depend from Claim 1, which has been shown above to be allowable. Claims 30 and 31 depend from Claim 20, which has also been shown above to be allowable. Claims 11, 12, 30, and 31 are thus allowable for at least these reasons. Applicants respectfully request reconsideration and allowance of Claims 11, 12, 30, and 31.

Conclusions

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending Claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicant stands ready to conduct such a conference at the convenience of the Examiner.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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